

REVISED CHECK-LIST OF MINING LEPIDOPTERA (NEPTICULOIDEA, TISCHERIOIDEA AND GRACILLARIOIDEA) FROM CENTRAL ASIA

Puplesis, R., Diškus, A., Noreika R. & Saparmamedova, N., 1996. Revised check-list of mining Lepidoptera (Nepticuloidea, Tischerioidea and Gracillarioidea) from Central Asia. – Tijdschrift voor Entomologie 139: 191-200. [ISSN 0040-7496]. Published 18 December 1996. The mining Lepidoptera of Central Asia are listed on the basis of revised data: in total 194 species, belonging to the Opostegidae (4), Nepticulidae (87), Tischeriidae (6), Gracillariidae (76) and Bucculatricidae (21). Nineteen species, including seven unnamed, are recorded for the first time from Central Asia, in addition 14 new records are given for the regional faunas. The following new synonymies are established: *Opostega angulata* Gerasimov, 1930 is a junior synonym of *O. spatulella* Herrich-Schäffer, 1855 and *S. pimschoorli* Puplesis, 1994 is a junior synonym of *S. kazakhstanica* Puplesis, 1991. *Microrapteryx minima* Noreika, 1992 is transferred to *Liocrobyla* Meyrick. A check-list of host plants is also given.

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The study of leaf-mining Lepidoptera of Central Asia was initiated by Filipjev (1926) and particularly by Gerasimov (1930, 1931, 1932, 1933). The last author noted more than 20 species from Central Asia, including 8 new taxa. Later Danilevsky (1955) added a few new species. Many more species, including 17 new for science were added as a result of Kuznetsov's investigations (1956, 1960, 1975, 1978, 1979). Furthermore, some taxonomic, faunistic and ecological data on Nepticuloidea and Gracillarioidea were published by Sherniyazova (1975, 1982, 1984, 1988a, 1988b), Seksjaeva (1981, 1993), Kozlov (1985), Falkovitsh (1986) and van Nieukerken (1990a, 1990b).

In the course of our own investigations in Turkmenistan, Tadzhikistan, Uzbekistan and southern Kazakhstan, from 1982 to 1995, about 106 species were recorded for the first time in Central Asia, including 80 previously undescribed ones (Puplesis 1984, 1988a, 1988b, 1989, 1990, 1994, Puplesis & Diškus 1995, 1996a, Noreika 1991a, 1991b, Noreika & Puplesis 1992a, 1992b, 1992c).

The fauna of the southern areas of Central Asia is still poorly known. Just two Nepticulidae species were recorded from Iran (Klimesch 1979, van Nieukerken 1985) and one Nepticulidae plus one Opostegidae species from Afghanistan (Davis 1989, van Nieukerken & Puplesis 1991). In the Gracillariidae five species were described from Iran (Deschka

1979, Triberti 1985, 1986, 1989), five from Afghanistan (Deschka 1974, Triberti 1985, 1986, 1989), and two from northern Pakistan (Triberti 1989, Bradley 1980). Just three Bucculatricidae species were recorded from Iran (Deschka 1981).

In the present list all records of species and host plants are summarised: there are 33 new records for regional faunas; 19 species are new for Central Asia, including 7 as yet unnamed species. Two new synonymies are established at the species level and one new combination is made. In total the present list deals with 5 families, 26 genera and 194 species.

The check-list is a part of the scientific project on the main groups of central-asiatic mining Lepidoptera (see Puplesis & Diškus 1996c). However, data on other families dealt with in this project (such as Heliozelidae, Phyllocnistidae, Lyonetiidae and Elachistidae) are still not revised and are not included here.

The region under study comprises the southeastern parts of Armeniya and Azerbaydzhan, southern Kazakhstan, Uzbekistan, Turkmenistan, Tadzhikistan, Kirgiziya, Iran (except southern parts), the northern parts of Afghanistan and Pakistan. The altitudes in this region vary from 132 m below sea-level to about 5600 m. There is a predominantly dry climate, or with rain mainly in winter and spring time. The habitats vary from sandy or salty deserts to forests in

mountains or tugai (Puplesis 1994) in river valleys. A characteristic floristic feature of this generally arid region is the predominance of secondary deciduous bush formations, particularly juniper stands and shibliak.

CHECK-LIST

Species which at present are considered endemics of Central Asia (see introduction) are marked with an asterisk* behind their number. Species for which there is a note at the end of the list are marked with two asterisks at the end of the text**.

Opostegidae Meyrick, 1893

Genus *Opostega* Zeller, 1839

1. *O. spatulella* Herrich-Schäffer, 1855
= *O. angulata* Gerasimov, 1930, syn. n.
Turkmenistan, Uzbekistan (Gerasimov 1930, Kuznetsov 1960, Kozlov 1985).
- 2*. *O. rezniki* Kozlov, 1985
Kazakhstan (Kozlov 1985).
- 3*. *O. afghani* Davis, 1989
Afghanistan (Davis 1989).

Genus *Pseudopostega* Kozlov, 1985

4. *P. auritella* (Hübner, 1813)
Uzbekistan (Gerasimov 1930).

Nepticulidae Stainton, 1854

Genus *Stigmella* Schrank, 1802

- S. lapponica*-group
- 5*. *S. maloidica* Puplesis, 1991
Tadzhikistan (Puplesis & Arutyunova 1991, Puplesis 1994).
- S. paliurella*-group
6. *S. paliurella* (Klimesch, 1940)
Turkmenistan (Gerasimov 1937, 1952, Puplesis 1994).
- 7*. *S. ficulnea* Puplesis & Krasilnikova, 1994
Turkmenistan (Puplesis 1994).
- 8*. *S. turbatrix* Puplesis, 1994
Turkmenistan (new record: Kopet Dag, 1993, larvae on *Celtis caucasica*, Puplesis & Diškus leg.); Tadzhikistan (Puplesis 1994).
- 9*. *S. abaiella* Klimesch, 1979
Iran (Klimesch 1979).
- S. ulmivora*-group
10. *S. ulmiphaga* (Preissecker, 1942)
Turkmenistan (Puplesis 1994).
- 11*. *S. kazakhstanica* Puplesis, 1991
= *S. pinschoorli* Puplesis, 1994, syn.n.
Kazakhstan, Turkmenistan (Puplesis et al. 1991, Puplesis 1994).
- S. betulicola*-group
12. *S. nivenburgensis* (Preissecker, 1942)
Turkmenistan (Puplesis 1994).
13. *S. luteella* (Stainton, 1857)
Kazakhstan (Puplesis et al. 1992, 1994).
- 14*. *S. sp.n.*

Tadzhikistan (Puplesis & Diškus, in prep.).

15*. *S. sp.n.*

Tadzhikistan (Puplesis & Diškus, in prep.).

S. ultima-group

16*. *S. acerna* Puplesis, 1988

Turkmenistan (Puplesis 1988b, 1994).

17*. *S. bicolor* Puplesis, 1988

Kazakhstan, Uzbekistan (new record: E to Tashkent, 1992, Zolotukhin leg.), Tadzhikistan, Kirgiziya (possibly) (Puplesis 1988b, 1994, Puplesis et al. 1992).

18*. *S. semiaurea* Puplesis, 1988

Turkmenistan, Tadzhikistan (Puplesis 1988b, 1994).

S. malella-group

19*. *S. armeniana* Puplesis, 1994

Armeniya (Puplesis 1994).

20*. *S. klimeschi* Puplesis, 1988

Kazakhstan, Tadzhikistan (Puplesis 1988b, 1994, Puplesis et al. 1992).

21*. *S. kopetdagica* Puplesis, 1994

Turkmenistan (Puplesis 1994).

S. anomalella-group

22. *S. anomalella* (Goeze, 1783)

Kazakhstan (Puplesis et al. 1992, Puplesis 1994).

23. *S. spinosisimae* (Waters, 1928)

Kazakhstan (new record: Alma Ata, 1938, larvae on *Rosa* sp., Gerasimov leg.).

S. sanguisorbae-group

24. *S. rolandi* van Nieuckerken, 1990

Kazakhstan (Puplesis et al. 1992, Puplesis 1994).

25. *S. muricatella* (Klimesch, 1978)

Tadzhikistan (Puplesis 1994).

26*. *S. trisyllaba* Puplesis, 1992

Kazakhstan, Tadzhikistan, Kirgiziya (Puplesis et al. 1992, Puplesis 1994).

27*. *S. sp. n.*

Turkmenistan (Puplesis & Diškus in prep.).

S. oxyacanthella-group

28. *S. regiella* (Herrich-Schäffer, 1855)

Turkmenistan (new record: the western Kopet Dag, 1993, Puplesis & Diškus leg.).

29. *S. crataegella* (Klimesch, 1936)

= *S. indigena* Puplesis, syn.n.

Turkmenistan (Puplesis 1994, additional material from western Kopet Dag, 1993, larvae on *Crataegus* spp., Puplesis & Diškus leg.).

30*. *S. caspica* Puplesis, 1994

Azerbaydzhan (Puplesis 1994).

31*. *S. crataegi* Gerasimov, 1937

Kirgiziya (Gerasimov 1937).

32. *S. aurora* Puplesis, 1984

Tadzhikistan (new record: Nurek, 1991, Puplesis & Diškus leg.).

33*. *S. lanceolata* Puplesis, 1994

Turkmenistan (Puplesis 1994).

34*. *S. hisariella* Puplesis, 1994

Tadzhikistan (Puplesis 1994).

S. paradoxa-group

35. *S. juryi* Puplesis, 1991

Turkmenistan (Puplesis 1991, 1994).

36*. *S. montana* Puplesis, 1991

Kazakhstan, Tadzhikistan (Puplesis 1991, Puplesis et al. 1992).

37. *S. inopinata* Laštůvka & Laštůvka, 1991

Armeniya (Puplesis 1994).

38*. *S. malifoliella* Puplesis, 1991

Tadzhikistan (Puplesis & Arutyunova 1991, Puplesis 1994).

- S. hybnerella*-group
39. *S. hybnerella* (Hübner, 1796)
Azerbaydzhan, Turkmenistan (Puplesis 1994).
S. salicis-group
40*. *S. johannsoni* Puplesis & Diškus, 1996c
= *S. salicis* sensu Puplesis, 1984 partim [misidentification]
Kazakhstan (Puplesis 1994: fig.350 (right side), Puplesis & Diškus 1996c).
41*. *S. aiderensis* Puplesis, 1988
Turkmenistan (Puplesis 1988b, 1994).
42*. *S. kondarai* Puplesis, 1988
Tadzhikistan (Puplesis 1988b, 1994).
43*. *S. juratae* Puplesis, 1988
Tadzhikistan (Puplesis 1988b, 1994).
44*. *S. flavescens* Puplesis, 1994
Turkmenistan (Puplesis 1994).
S. lurida-group
45. *S. lurida* Puplesis, 1994
Tadzhikistan (Puplesis 1994).
S. sorbi-group
46*. *S. suborbi* Puplesis, 1994
Tadzhikistan (Puplesis 1994, Puplesis & Diškus 1996b).
47*. *S. cerasi* Puplesis & Diškus, 1996b
Turkmenistan (Puplesis & Diškus 1996b).
48*. *S. aflatuniae* Puplesis & Diškus, 1996b
Tadzhikistan (Puplesis & Diškus 1996b).
S. motiekaitisi-group
49*. *S. motiekaitisi* Puplesis, 1994
Tadzhikistan (Puplesis 1994).
S. marginicolella-group
50*. *S. talassica* Puplesis, 1992
Kazakhstan (Puplesis et al. 1992, Puplesis 1994).
S. aurella-group
51. *S. aurella* (Fabricius, 1775)
Turkmenistan (new record: western Kopet Dag, 1993,
larvae on *Rubus* spp., Puplesis & Diškus leg.).
S. pomella-group
52*. *S. fuscacalyptriella* Puplesis, 1994
Azerbaydzhan (Puplesis 1994).
S. hemargyrella-group
53*. *S. kuznetzovi* Puplesis, 1994
Turkmenistan (Puplesis 1994).
S. longispina-group
54*. *S. longispina* Puplesis, 1994
Tadzhikistan (Puplesis 1994).
Unnamed group:
55. *S. sp.n.*
Turkmenistan (Puplesis, Diškus & Nieuwerkerken, in press)
- Genus *Ectoedemia* Busck, 1907**
Subgenus *Zimmermannia* Hering, 1940
56. *E. amani* Svensson, 1966
Azerbaydzhan (Puplesis 1994).
Subgenus *Ectoedemia* Busck, 1907
E. populella-group
57*. *E. albida* Puplesis, 1994
= *E. turbidella* Zeller, 1848 sensu van Nieuwerkerken 1985
partim [misidentification].
Turkmenistan (Puplesis 1994), Iran (van Nieuwerkerken 1985).
E. angulifasciella-group
58. *E. atricollis* (Stainton, 1857)
Tadzhikistan (Puplesis & Arutyunova 1991, Puplesis 1994).
59. *E. arcuatella* (Herrich-Schäffer, 1855)
Kazakhstan (new record: Alma Ata, 1938, Gerasimov leg.).
60. *E. spinosella* (Joannis, 1908)
Turkmenistan (new record: western Kopet Dag, 1993,
Puplesis & Diškus leg.).
61*. *E. petrosa* Puplesis, 1988
Tadzhikistan (Puplesis 1988b, 1994).
62*. *E. sp.n.*
Turkmenistan (Puplesis & Diškus, in prep.).
63*. *E. ingloria* Puplesis, 1988
Tadzhikistan (Puplesis 1988b, 1994).
64*. *E. tadschikiella* Puplesis, 1988
Tadzhikistan (Puplesis 1988a, 1994).
65*. *E. insignata* Puplesis, 1988
Tadzhikistan (Puplesis 1988b, 1994).
66*. *E. rosiphila* Puplesis, 1992
Kazakhstan (Puplesis et al. 1992, Puplesis 1994),
Tadzhikistan (new record, mines only).
- Genus *Fomorioria* Beirne, 1945**
F. weaveri-group
67. *F. septembrella* (Stainton, 1849)
Azerbaydzhan, Turkmenistan (Puplesis 1994).
F. asiatica-group
68*. *F. asiatica* Puplesis, 1988
Turkmenistan, Tadzhikistan (Puplesis 1988a, 1994).
69*. *F. flavimacula* Puplesis & Diškus, 1996c.
Tadzhikistan (Puplesis & Diškus 1996c).
70*. *F. lacrimulae* Puplesis & Diškus, 1996c
Turkmenistan (Puplesis & Diškus 1996c).
- Genus *Acalyptis* Meyrick, 1921**
A. repeteki-group
71*. *A. repeteki* (Puplesis, 1984)
Turkmenistan (Puplesis 1984, 1990, 1994).
72*. *A. vittatus* (Puplesis, 1984)
Turkmenistan (Puplesis 1984, 1994).
73*. *A. arenosus* (Falkovitsh, 1986)
Turkmenistan, Uzbekistan (Falkovitsh 1986, Puplesis 1990, 1994).
74. *A. pallens* (Puplesis, 1984)
Turkmenistan, Uzbekistan (Puplesis 1984, 1989, 1990, 1994).
75*. *A. falkovitshi* (Puplesis, 1984)
Turkmenistan, Uzbekistan (Puplesis 1984, 1989, 1990, 1994).
76. *A. lwowskyi* (Puplesis, 1984)
Turkmenistan, Uzbekistan (Puplesis 1984, 1989, 1990, 1994).
77*. *A. turcomanicus* (Puplesis, 1984)
Turkmenistan (Puplesis 1984, 1990, 1994).
78. *A. galinae* (Puplesis, 1984)
Turkmenistan, Uzbekistan (Puplesis 1984, 1990, 1994).
A. shafirkanus-group
79*. *A. shafirkanus* (Puplesis, 1984)
Turkmenistan, Uzbekistan (Puplesis 1984, 1990, 1994).
80*. *A. desertellus* (Puplesis, 1984)
Turkmenistan, Uzbekistan (Puplesis 1984, 1989, 1990, 1994).
81*. *A. piculus* Puplesis, 1990
Tadzhikistan (Puplesis 1990, 1994).
82*. *A. kizilkumi* (Falkovitsh, 1986)
Turkmenistan, Uzbekistan (Falkovitsh 1986, Puplesis 1989, 1990, 1994), Iran, Afghanistan (van Nieuwerkerken pers.comm.).

- 83*. *A. brevis* Puplesis, 1990
Turkmenistan (Puplesis 1990).
84*. *A. egidjui* Puplesis, 1990
Turkmenistan, Tadzjikistan (Puplesis 1990, 1994).
85*. *A. vannieukerkeri* Puplesis, 1994
Turkmenistan (Puplesis 1994).
A. argyraspis-group
86*. *A. argyraspis* Puplesis & Diškus, 1995
Tadzjikistan (Puplesis & Diškus 1995).

Genus *Glaucoclepis* Braun, 1917

raikhonae-group

- 87*. *G. raikhonae* Puplesis, 1985
Kazakhstan, Uzbekistan, Tadzjikistan, Kirgiziya,
Afghanistan (Puplesis 1985, 1994, van Nieukerken &
Puplesis 1991).
88. *G. melanoptera* (van Nieukerken & Puplesis, 1991)
Armeniya, Turkmenistan (van Nieukerken & Puplesis
1991, Puplesis 1994).

Genus *Trifurcula* Zeller, 1848

T. subnitidella-group

89. *T. puplesisi* van Nieukerken, 1990a
Turkmenistan, Tadzjikistan (van Nieukerken 1990a,
Puplesis 1994).

Genus *Etainia* Beirne, 1945

- 90*. *E. leptognathos* Puplesis & Diškus, 1996a
Turkmenistan (Puplesis & Diškus 1996a).
91*. *E. obtusa* Puplesis & Diškus, 1996a
Turkmenistan (Puplesis & Diškus 1996a).

Tischeriidae Spuler, 1910

Genus *Tischeria* Zeller, 1839

T. angusticolella-group

92. *T. gaunacella* Duponchel, 1843
Turkmenistan (Kuznetsov 1960).
93. *T. marginea* Haworth, 1828
Turkmenistan (new record: central and western Kopet
Dag, 1991-1993, Puplesis & Diškus leg.).
94. *T. angusticolella* Duponchel, 1843
Turkmenistan (new record: western Kopet Dag, 1993,
Puplesis & Diškus).

T. longispicula-group

- 95*. *T. rosella* Gerasimov, 1937
Turkmenistan (new record: western Kopet Dag, 1993,
larvae on *Rosa* sp., Puplesis & Diškus leg.); Uzbekistan
(Gerasimov 1937); Tadzjikistan (new record: Gissar
ridge, 1990-1991, Noreika, Sruoga, Puplesis & Diškus
leg.).
96*. *T. longispicula* Puplesis, 1988
Turkmenistan, Uzbekistan (Puplesis 1988)**.
97*. *T. sp.n.*
Tadzjikistan (Puplesis & Diškus, in prep.).

Gracillariidae Stainton, 1854

Genus *Parornix* Spuler, 1910

- 98*. *P. subfinitimella* Kuznetsov, 1956
Turkmenistan (Kuznetsov 1956, 1981).

- 99*. *P. hastata* Triberti, 1989
Afghanistan (Triberti 1989).
100*. *P. compressa* Triberti, 1989
Afghanistan, Pakistan (Triberti 1989).
101*. *P. kugitangi* Noreika, 1991a
Turkmenistan (Noreika 1991a).
102*. *P. asiatica* Noreika, 1991a
Turkmenistan, Tadzjikistan (Noreika 1991a, Noreika &
Puplesis 1992c).
103*. *P. sp. n.*
Turkmenistan (Kuznetsov, in prep.)**.
104. *P. petiolella* (Frey, 1863)
Kazakhstan (Kuznetsov 1981).
105*. *P. cotoneasterella* Kuznetsov, 1978
Tadzjikistan (Kuznetsov 1978, 1981, Sherniyazova
1982, 1984, Noreika & Puplesis 1992c).
106*. *P. turcmeniella* Kuznetsov, 1956
Turkmenistan (Kuznetsov 1956, 1981).
107. *P. szoecki* Gozmany, 1952
= *P. amygdalella* Kuznetsov, 1978
Kazakhstan (Kuznetsov 1978, 1981 [as *amygdalella*]).
108*. *P. persicella* Danilevsky, 1955
Kazakhstan, Turkmenistan, Uzbekistan, Tadzjikistan
(Danilevsky 1955, Kuznetsov 1960, 1981, Sherniyazova
1982, Noreika 1991a, Noreika & Puplesis 1992c).

Genus *Micrurapteryx* Spuler, 1910

109. *M. kollariella* (Zeller, 1839)
Kazakhstan (Kuznetsov 1981, Kuznetsov & Tristan
1985).
110*. *M. sophorella* Kuznetsov, 1979
Kazakhstan, Uzbekistan (Kuznetsov 1979, 1981,
Kuznetsov & Tristan, 1985).
111*. *M. fumosella* Kuznetsov & Tristan, 1985
Kirgiziya (Kuznetsov & Tristan 1985).
112*. *M. tortuosella* Kuznetsov & Tristan, 1985
Tadzjikistan, Kirgiziya (Kuznetsov & Tristan 1985,
Puplesis & Noreika 1990, Noreika & Puplesis 1992c).
113*. *M. sophorivora* Kuznetsov & Tristan, 1985
Kazakhstan (Kuznetsov & Tristan 1985), Tadzjikistan
(new record: Gissar ridge, 1991, larvae on *Sophora*,
Sruoga leg.).
114*. *M. bidentata* Noreika, 1992
Kirgiziya (Noreika & Puplesis 1992b).
115. *M. gradatella* (Herrich-Schäffer, 1855)
Tadzjikistan (new record: Gissar ridge, 1991, Noreika
leg.).

Genus *Liocrobyla* Meyrick, 1916

- 116*. *L. minima* (Noreika, 1992) comb. n.
Turkmenistan (new record: western part of the Kopet
Dag ridge, 1993, Sruoga leg.), Tadzjikistan (Noreika &
Puplesis 1992b).

Genus *Polymitia* Triberti, 1986

- 117*. *P. eximipalpella* (Gerasimov, 1930)
Turkmenistan, Uzbekistan, Tadzjikistan, Iran,
Afghanistan (Gerasimov 1930, Kuznetsov 1960, Triberti
1986, Noreika 1991a, Noreika & Puplesis, 1992c).
118*. *P. laristana* Triberti, 1986
Iran (Triberti 1986).

Genus *Gracillaria* Haworth, 1828119. *G. loriolella* Frey, 1881

Turkmenistan, Tadjikistan (Kuznetsov 1960, 1981, Sherniyazova 1982, 1984, Noreika 1991a, Noreika & Puplesis 1992c [Misidentification as *Caloptilia cuculipennella* (Hübner)])**.

Genus *Caloptilia* Hübner, 1825120. *C. stigmatella* (Fabricius, 1781)

Armeniya, Kazakhstan, Turkmenistan, Uzbekistan, Tadjikistan, Kirgiziya (Sherniyazova 1975, 1982, Kuznetsov, 1981, Noreika & Puplesis 1992a; 1992c).

121. *C. flava* (Staudinger, 1870)

= *Gracillaria impictipennella* Gerasimov, 1930

Turkmenistan, Uzbekistan (Gerasimov 1930, Kuznetsov 1960, Noreika 1991b, Noreika & Puplesis 1992b).

122. *C. semifascia* (Haworth, 1828)

Turkmenistan (Kuznetsov 1981), Tadjikistan (new record: Gissar ridge, 1991, Sruoga leg.).

123*. *C. acerivorella* (Kuznetsov, 1956)

Turkmenistan, Tadjikistan (Kuznetsov 1956, 1960, 1981, Sherniyazova 1982, 1988b, Noreika 1991a, Noreika & Puplesis 1992c).

124*. *C. acericolella* Kuznetsov, 1981

Kazakhstan (Kuznetsov 1981).

125. *C. fribergensis* (Fritzsch, 1871)

Kazakhstan, Turkmenistan (Kuznetsov 1960, 1981, Noreika 1991a).

126. *C. populetorum* (Zeller, 1839)

Kazakhstan (Kuznetsov 1981).

127. *C. roscipennella* (Hübner, 1796)

Uzbekistan, Tadjikistan (Gerasimov 1930, Kuznetsov 1981, Sherniyazova 1982, Noreika & Puplesis 1992c).

128. *C. fidella* Reutti, 1853

Turkmenistan (new record: western Kopet Dag, 1993, Sruoga leg.).

Genus *Calybites* Hübner, 1822129. *C. phasianipennella* (Hübner, 1813)

Kazakhstan, Turkmenistan, Uzbekistan (Gerasimov 1930, Kuznetsov 1981, Noreika & Puplesis 1992a), Tadjikistan (new record: central Tadjikistan, env. Tursunzade, 1990, larvae on *Polygonum*, Noreika leg.).

Genus *Eucalybites* Kumata, 1982130. *E. auroguttella* (Stephens, 1835)

Turkmenistan (Kuznetsov 1960).

Genus *Aspilapteryx* Spuler, 1910131. *A. tringipennella* (Zeller, 1839)

Turkmenistan, Uzbekistan, Tadjikistan, Afghanistan (Kuznetsov 1960, 1981, Triberti 1985, Noreika 1991a, Noreika & Puplesis 1992c).

132*. *A. magna* Triberti, 1985

Iran (Triberti 1985).

Genus *Cupedia* Klimesch et Kumata, 1973133. *C. cupediella* (Herrich-Schäffer, 1855)

Turkmenistan, Tadjikistan (Kuznetsov 1981, Sherniyazova 1988a, Noreika & Puplesis 1992a).

Genus *Acrocercops* Wallengren, 1881134*. *A. iraniiana* Triberti, 1989

Iran (Triberti 1989).

Genus *Dialectica* Walsingham, 1987135. *D. scalarisella* (Zeller, 1850)

Turkmenistan (Noreika 1991b, Noreika & Puplesis 1992a).

136. *D. imperialella* (Zeller, 1847)

Turkmenistan (new record: western Kopet Dag, 1993, Sruoga leg.).

Genus *Leucospilapteryx* Spuler, 1910137. *L. omisella* (Stainton, 1848)

Kazakhstan (Kuznetsov 1981).

Genus *Cameraria* Chapman, 1902138*. *C. obliquifascia* (Filipjev, 1926)

Turkmenistan, Uzbekistan, Tadjikistan (Filipjev 1926, Gerasimov 1932, Sherniyazova 1975, 1984, Kuznetsov 1981, Puplesis & Noreika 1990, Noreika 1991a, Noreika & Puplesis 1992a, 1992c, Puplesienė & Noreika 1993).

139*. *C. saliciphaga* (Kuznetsov, 1975)

Turkmenistan, Uzbekistan, Tadjikistan (Kuznetsov 1975, Sherniyazova 1975, 1984, Kuznetsov, 1981, Puplesis & Noreika 1990, Noreika 1991a, Noreika & Puplesis 1992a, 1992c, Puplesienė & Noreika 1993).

Genus *Phyllonorycter* Hübner, 1822140. *Ph. schreberella* (Fabricius, 1781)

Kazakhstan, Turkmenistan (Kuznetsov 1960, 1981, Puplesis et al. 1991, Noreika 1991a).

141. *Ph. millierella* (Staudinger, 1871)

Kazakhstan, Turkmenistan, Tadjikistan (Kuznetsov 1960, 1981, Sherniyazova 1984, Puplesis & Noreika 1990, Noreika 1991a, Noreika & Puplesis, 1992c).

142*. *Ph. caspica* Noreika, 1992

Azerbaydžan (Noreika & Puplesis 1992b).

143. *Ph. emberizaepennella* (Bouche, 1834)

Kazakhstan, Turkmenistan (Kuznetsov 1960, 1981, Noreika 1991a).

144*. *Ph. raikhonae* Noreika, 1992

Tadjikistan (Noreika & Puplesis 1992c).

145*. *Ph. montanella* Bradley, 1980

Pakistan (Bradley 1980).

146*. *Ph. loniceriphaga* Noreika, 1992

Tadjikistan (Noreika & Puplesis 1992b).

147*. *Ph. juglandicola* (Kuznetsov, 1975)

Tadjikistan (Kuznetsov 1975, 1981, Sherniyazova 1984, Noreika & Puplesis 1992c).

148*. *Ph. infirma* Deschka, 1974

Afghanistan (Deschka 1974).

149. *Ph. medicaginella* (Gerasimov, 1930)

Kazakhstan, Turkmenistan, Uzbekistan, Tadjikistan (Gerasimov 1930 [Misidentified as *Ph. insignitella* (Zeller)], 1932, Kuznetsov 1981, Noreika 1991a, Puplesis & Noreika 1990, Noreika & Puplesis 1992c)**.

150*. *Ph. fabaceaella* (Kuznetsov, 1978)

Tadjikistan (Kuznetsov 1978, 1981, Noreika & Puplesis 1992c).

151. *Ph. pyrifoliella* (Gerasimov, 1933)

Kazakhstan (Gerasimov 1933, Kuznetsov 1981).

152. *Ph. comparella* (Duponchel, 1843)

Kazakhstan (Kuznetsov 1981).

153. *Ph. sagitella* (Bjerkander, 1790)

- Kazakhstan (Kuznetsov 1981), Turkmenistan (new record: western Koper Dag ridge, 1993, Sruoga leg.).
- 154*. *Ph. populi* (Filipjev, 1926)
= *Lithocolletis populiella* Filipjev, 1926 (preoccupied by *L. populiella* Chambers, 1878) Kazakhstan, Turkmenistan, Uzbekistan, Tadjikistan (Filipjev 1926 [as *populiella*], Kuznetsov 1981, Sherniyazova 1984, Noreika & Puplesis 1992a).
- 155*. *Ph. iranica* Deschka, 1979
Iran (Deschka 1979).
156. *Ph. populifoliella* (Treitschke, 1833)
Kazakhstan, Uzbekistan (Gerasimov 1932, Kuznetsov 1981, Noreika 1991a, Noreika & Puplesis 1992a).
157. *Ph. pastorella* (Zeller, 1846)
= *Lithocolletis fainae* Gerasimov
Kazakhstan, Turkmenistan, Uzbekistan, Tadjikistan, Kirgiziya (Gerasimov 1931 [as *Lithocolletis fainae*], 1932, Kuznetsov 1960, 1981, Sherniyazova 1984, Noreika 1991a, Noreika & Puplesis, 1992a, 1992c, Puplesis et al. 1992).
- 158*. *Ph. populicola* (Kuznetsov, 1975)
Tadjikistan (Kuznetsov 1975, 1981, Sherniyazova 1975, 1984, Puplesis & Noreika 1990, Noreika & Puplesis 1992a, 1992c).
159. *Ph. apparella* (Herrich-Schäffer, 1855)
Kazakhstan (Kuznetsov 1981).
- 160*. *Ph. aceriphaga* (Kuznetsov, 1975)
Turkmenistan, Tadjikistan (Kuznetsov 1975, 1981, Sherniyazova 1984, 1988b, Puplesis & Noreika 1990, Noreika 1991a, Noreika & Puplesis 1992c).
161. *Ph. connexella* (Zeller, 1846)
= *Ph. asiatica* Gerasimov, syn.n.
Kazakhstan, Turkmenistan, Uzbekistan, Tadjikistan (Gerasimov 1931, 1932, Sherniyazova 1975, 1984, Kuznetsov 1981, Noreika 1991a, 1991b, Noreika & Puplesis 1992a, 1992c [as *Ph. asiatica*], Puplesienë & Noreika 1993).
- 162*. *Ph. dentifera* Noreika, 1992
Turkmenistan, Tadjikistan (Noreika & Puplesis 1992a).
- 163*. *Ph. pruinosa* (Gerasimov, 1931)
Kazakhstan, Turkmenistan, Uzbekistan, Tadjikistan (Gerasimov 1931, 1932, Kuznetsov 1960, 1981, Noreika 1991a, Noreika & Puplesis 1992a, 1992c).
164. *Ph. platani* (Staudinger, 1870)
Kazakhstan, Turkmenistan, Uzbekistan, Tadjikistan, Kirgiziya (Gerasimov 1932, Kuznetsov 1960, 1981, Sherniyazova 1984, Noreika 1991a, Noreika & Puplesis 1992c).
165. *Ph. acerifoliella* (Zeller, 1839)
= *Ph. sylvestra* (Haworth)
Kazakhstan (Kuznetsov 1981 [as *Ph. sylvestra*]), Turkmenistan (new record: western Koper Dag, 1993, Puplesis & Diškus leg.).
- 166*. *Ph. aceripetis* (Kuznetsov, 1978)
Turkmenistan, Tadjikistan (Kuznetsov 1978, Sherniyazova 1984, 1988b, Puplesis & Noreika 1990, Noreika 1991a, Noreika & Puplesis 1992c).
- 167*. *Ph. turcomanicella* (Kuznetsov, 1956)
Turkmenistan (Kuznetsov 1956, 1960, 1981).
168. *Ph. corylifoliella* (Hübner, 1796)
Kazakhstan, Turkmenistan Uzbekistan, Tadjikistan (Kuznetsov 1960, 1981, Sherniyazova 1984, Puplesis & Noreika 1990, Noreika 1991a, Noreika & Puplesis 1992c).
169. *Ph. turanica* (Gerasimov, 1931)
Azerbaydzhan, Kazakhstan, Turkmenistan, Uzbekistan, Tadjikistan, Kirgiziya (Gerasimov 1931, 1932, Kuznetsov 1960, 1981, Sherniyazova 1984, Noreika 1991a, Noreika & Puplesis 1992c).
- 170*. *Ph. bissarella* Noreika, 1992
Tadjikistan (Noreika & Puplesis 1992c).
171. *Ph. cerasiolella* (Herrich-Schäffer, 1855)
Kazakhstan, Turkmenistan (Kuznetsov 1960, 1981, Noreika 1991a, Puplesienë & Noreika 1993).
- 172*. *Ph. malella* (Gerasimov, 1931)
Kazakhstan, Turkmenistan, Uzbekistan, Tadjikistan, Kirgiziya (Gerasimov 1931, 1932, Kuznetsov 1981, Sherniyazova 1984, Puplesis & Noreika 1990, Noreika 1991a, Noreika & Puplesis 1992c, Puplesis et al. 1992).
173. *Ph. cydoniella* (Dennis & Schiffermüller, 1775)
Turkmenistan (new record: western Koper Dag, 1993, Sruoga leg.).

Bucculatricidae Wallengren, 1881

Genus *Bucculatrix* Zeller, 1839

174. *B. artemisiae* Herrich-Schäffer, 1853
= *B. artemisiella* Herrich-Schäffer, 1955
Turkmenistan (Seksjaeva 1993).
175. *B. ratisbonensis* Stainton, 1861
Turkmenistan (Seksjaeva 1993).
- 176*. *B. anthemidella* Deschka, 1972
Kirgiziya (Seksjaeva 1993).
177. *B. armeniaca* Deschka, 1992
Armeniya (Deschka 1992, Seksjaeva 1993).
178. *B. centaureae* Deschka, 1973
Kazakhstan, Turkmenistan (Puplesis et al. 1992, Seksjaeva 1993).
- 179*. *B. iranica* Deschka, 1981
Iran (Deschka 1981).
- 180*. *B. tiانشanica* Seksjaeva, 1992
Kazakhstan, Turkmenistan (Puplesis et al. 1992, Seksjaeva 1993).
181. *B. maritima* Stainton, 1851
Kazakhstan (Puplesis et al. 1992, Seksjaeva 1993), Tadjikistan (new record: Gissar ridge, 1991, Sruoga, Puplesis & Diškus leg.).
182. *B. cristatella* Zeller, 1839
= *B. jugicola* Wocke, 1876
Turkmenistan (new record: western Koper Dag, 1993, Puplesis & Diškus leg.).
183. *B. cidarella* Zeller, 1839
Kazakhstan (Seksjaeva 1981, 1993).
184. *B. paliuricola* Kuznetsov, 1956
Turkmenistan (Kuznetsov 1956, 1960, Seksjaeva 1981, 1993).
185. *B. ulmifoliae* Hering, 1931
Kazakhstan, Uzbekistan, Kirgiziya (Seksjaeva 1981, 1993).
186. *B. ulmicola* Kuznetsov, 1962
Armeniya, Kazakhstan, Turkmenistan, Uzbekistan (Kuznetsov 1962, Seksjaeva 1981, 1993), Tadjikistan (new record: Gissar ridge, 1990-1991, larvae on *Ulmus* sp., Bajarūnas leg.).
- 187*. *B. caspica* Puplesis & Sruoga, 1991
Kazakhstan, Uzbekistan (Puplesis et al. 1991, Seksjaeva 1993), Tadjikistan (new record: Gissar ridge, 1990-1991, larvae on *Ulmus* sp., Bajarūnas leg.)**.

188. *B. frangutella* (Goeze, 1783)
Turkmenistan, Uzbekistan (Seksjaeva 1981, 1993).
189. *B. crataegi* Zeller, 1839
Kazakhstan, Turkmenistan, Tadjikistan,
Kirgiziya (Seksjaeva 1981, 1993).
190*. *B. endospiralis* Deschka, 1981
Iran (Deschka 1981).
191*. *B. multicornuta* Puplesis & Diškus, 1996
Turkmenistan (Puplesis & Diškus 1996c).
192*. *B. pectinella* Deschka, 1981
Iran, Turkmenistan (Deschka 1981, Seksjaeva 1993).
193*. *B. formosa* Puplesis & Seksjaeva, 1992
Turkmenistan (Puplesis et al. 1992), Tadjikistan (new
record: Nurek, 1990-1991, Bajarūnas leg.).
194*. *B. macrognathos* Puplesis & Diškus, 1996
Turkmenistan (Puplesis & Diškus 1996c).

NOTES

(96). *Tischeria longispicula* Puplesis – No data from Tadjikistan. Renewed study of all available Tadjikistanian specimens (Puplesis 1988) has shown that they are identical with the new species cited under no. 97.

(103). *Parornix* sp. – There are no confirmed data of *Parornix torquilella* from Central Asia. Asiatic specimens previously identified as such (i.e. Kuznetsov 1960) belong to this as yet unnamed species (Noreika in prep.).

(119). *Gracillaria loriolella*. – There are no confirmed data of *Caloptilia cuculipennella* (Hübner) from Central Asia. Asiatic specimens previously identified as such (i.e. Kuznetsov 1960, Noreika 1991a, Noreika & Puplesis 1992c) belong to *loriolella*.

(149). *Phyllonorycter medicaginella* – There are no confirmed data of *Ph. insignitella* (Zeller) from Central Asia. Gerasimov's previous record (1930) for Uzbekistan is *medicaginella*.

(187). *Bucculatrix caspica* Puplesis & Suoga – No data available from Turkmenistan. The distribution data in Seksjaeva (1993) were incorrectly cited.

HOST PLANT RELATIONSHIPS OF LEAF-MINING LEPIDOPTERA IN CENTRAL ASIA

Mining Lepidoptera, in particular the Gracillariidae and part of the Nepticulidae are for a major part known through rearing of imagines from larvae, so that there is a large amount of knowledge available on hostplant relationships and bionomics. However, in some taxa such as the Opostegidae, or in such nepticulid genera as *Acalyptris*, *Etainia* and *Ectoedemia*, hostplants are known for less than 20-40% of the species.

The data on bionomics of Centralasiatic leaf-miners are compiled from the works of Kuznetsov (1981), Seksjaeva (1981, 1993), Noreika & Puplesis (1992a, 1992c) and Puplesis (1994). Because many more new data have become available recently, an updated survey is presented below. The plant taxonomy follows Takhtajan (1987), which is the most exhaustive, frequently used and well-known classification for plants in Central Asia.

In summary, leaf-miners of the families under study are known in Central Asia from 60 plant genera and 22 plant families.

Check-list of host plants

The numbers refer to the species in the check-list above. Hostdata which apply to data outside Central Asia are marked with an asterisk*. Hostdata not obtained by rearing, but by indirect evidence (i.e. collecting adults near host) are marked with a question-mark (?).

Chenopodiaceae

Chenopodium: 129. *Calybites phasianipennella*

Polygonaceae

Polygonum: 129. *Calybites phasianipennella*

Rumex: 129. *Calybites phasianipennella*

Platanaceae

Platanus: 164. *Phyllonorycter platanii*

Betulaceae

Betula: 13. *Stigmella luteella**, 14. sp.n. (*Stigmella betulicola*-group), 15. sp.n. (*Stigmella betulicola*-group)

Alnus: 183. *Bucculatrix cidarella**

Juglandaceae

Juglans: 127. *Caloptilia roscipennella*, 147. *Phyllonorycter juglandicola*

Clusiaceae (=Guttiferae)

Hypericum: 67. *Fomoria septembrella**, 130. *Eucalybites auroguttella*

Primulaceae

Lysimachia: 129. *Calybites phasianipennella*

Salicaceae

Populus: 57. *Ectoedemia albida* (?), 69. *Fomoria flavimacula*, 120. *Caloptilia stigmatella*, 138. *Cameraria obliquifascia*, 152. *Phyllonorycter comparella*, 153. *Ph. sagitella**, 154. *Ph. populi*, 156. *Ph. populifoliella*, 157. *Ph. pastorella*, 158. *Ph. populicola*, 159. *Ph. apparella*, 162. *Ph. dentifera*, 164. *Ph. platanii*

Salix: 1. *Opostega spatulella**, 12. *Stigmella nivenburgensis*, 40. *S. johannsoni*, 41. *S. aiederensis*, 42. *S. kondarai* (?), 43. *S. juratae* (?), 44. *S. flavescens*, 45. *S. lurida* (?), 120. *Caloptilia stigmatella*, 138. *Cameraria obliquifascia*, 139. *C. saliciphaga*, 157. *Phyllonorycter pastorella*, 161. *Ph. connexella*, 163. *Ph. pruinosa*

Ulmaceae

Ulmus: 10. *Stigmella ulmiphaga*, 11. *S. kazakhstanica*, 56. *Ectoedemia amani**, 140. *Phyllonorycter schreberella*, 185. *Bucculatrix ulmifoliae*, 186. *B. ulmicola*, 187. *B. caspica*
Celtis: 8. *Stigmella turbatrix*, 128. *Caloptilia fidella*, 141. *Phyllonorycter milliereella*

Moraceae

Ficus: 7. *Stigmella ficulnea*

Cannabaceae

Humulus: 128. *Caloptilia fidella**

Rosaceae

Spiraea: 37. *Stigmella inopinata**

Rubus: 51. *Stigmella aurella*, 93. *Tischeria marginata*

Rosa: 22. *Stigmella anomalella*, 23. *S. spinosissima*, 24. *S. rolandi**, 25. *S. muricatella**, 26. *S. trisyllaba*, 27. *S. sp.n.* (*S. sanguisorbae*-group), 66. *Ectoedemia rosiphila*, 94. *T. angusticoella* 95. *Tischeria rosella*, 96. *T. longispicula*,

Potentilla: 59. *Ectoedemia arcuatella**

Fragaria: 59. *Ectoedemia arcuatella**

Sanguisorba: 24. *Stigmella rolandi**, *S. muricatella**

Sorbus: 104. *Parornix petiolella**, 169. *Phyllonorycter turanica**

Pyrus: 9. *Stigmella abaiella*, 168. *Phyllonorycter corylifoliella*, 172. *Ph. malella*

Malus: 5. *Stigmella maloidica*, 38. *S. malifoliella*, 58. *Ectoedemia atricollis*, 104. *Parornix petiolella*, 151. *Phyllonorycter pyrifoliella*, 155. *Ph. iranica*, 168. *Ph. corylifoliella*, 169. *Ph. turanica*, 172. *Ph. malella*, 189. *Bucculatrix crataegi*

Amelanchier: 39. *Stigmella hybnerella**

Cydonia: 169. *Phyllonorycter turanica*, 172. *Ph. malella*, 173. *Ph. cydoniella*

Cotoneaster: 5. *Stigmella maloidica*, 39. *S. hybnerella**, 46. *S. suborbi*, 105. *Parornix cotoneasterella*, 170. *Ph. hissarella*, 172. *Ph. malella*, 189. *Bucculatrix crataegi*

Crataegus: 28. *Stigmella regiella*, 29. *S. crataegella*, 31. *S. crataegi*, 32. *S. aurora**, 34. *S. hissarella*, 35. *S. juryi*, 39. *S. hybnerella*, 98. *Parornix subfinitimella*, 168. *Phyllonorycter corylifoliella*, 169. *Ph. turanica*, 172. *Ph. malella*, 189. *Bucculatrix crataegi*

Cerasus: 47. *Stigmella cerasi*, 60. *Ectoedemia spinosella*, 92. *Tischeria gaunacella*, 171. *Phyllonorycter cerasicolella*

Prunus: 60. *Ectoedemia spinosella*, 92. *Tischeria gaunacella*, 104. *Parornix petiolella**, 107. *P. szoeci*, 169. *Phyllonorycter turanica*, 171. *Ph. cerasicolella*

Amygdalus: 106. *Parornix turcomeniella* (?), 107. *P. szoeci*, 108. *P. persicella*, 169. *Phyllonorycter turanica*, 171. *Ph. cerasicolella*

Aflutunia: 48. *S. aflutunia*

Lythraceae

Lythrum: 129. *Calybitis phasianipennella**

Fabaceae (=Leguminosae)

Sophora: 113. *Micrurapteryx sophorivora*

Astragalus: 111. *Micrurapteryx fumosella*

Glycyrrhiza: 121. *Caloptilia flava**

Vicia: 111. *Micrurapteryx fumosella*

Lathyrus: 112. *Micrurapteryx tortuosella*, 150. *Phyllonorycter fabaceella* (?)

Melilotus: 111. *Micrurapteryx fumosella*, 112. *M. tortuosella*, 149. *Phyllonorycter medicaginnella**

Medicago: 112. *Micrurapteryx tortuosella*, 149. *Phyllonorycter medicaginnella*, 150. *P. fabaceella*

Trifolium: 111. *Micrurapteryx fumosella*

Cytisus: 109. *Micrurapteryx kollariella**

Aceraceae

Acer: 16. *Stigmella acerna*, 17. *S. bicolor*, 18. *S. semiaurea*, 53. *S. kuznetzovi*, 90. *Etainia leptognathos* (?), 91. *E. obtusa* (?), 122. *Caloptilia semifascia*, 123. *C. acerivorella*, 124. *C. acericolella*, 125. *C. fribergensis**, 160. *Phyllono-*

rycter aceriphaga, 165. *Ph. acericoliella**, 166. *Ph. aceripestis*, 167. *Ph. turcomanicella*

Anacardiaceae

Pistacia: 133. *Cupedia cupediella*

Rhamnaceae

Rhamnus: 20. *Stigmella klimeschi*, 21. *S. kopetdagica*, 188. *Bucculatrix frangutella**

Paliurus: 6. *Stigmella paliurella*, 184. *Bucculatrix paliuricola*

Zizyphus: 6. *Stigmella paliurella*

Caprifoliaceae

Lonicera: 143. *Phyllonorycter emberizaepennella*, 144. *Ph. raikhonae*, 145. *Ph. montanella*, 146. *Ph. loniceriphaga*

Oleaceae

Fraxinus: 119. *Gracillaria loriolella*

Boraginaceae

Echium: 135. *Dialectica scalariella**

Pulmonaria: 136. *Dialectica imperialella**

Symphytum: 136. *Dialectica imperialella**

Anchusa: 135. *Dialectica scalariella**

Plantaginaceae

Plantago: 131. *Aspilapteryx tringipennella**

Lamiaceae (=Labiatae)

Lycopus: 4. *Pseudopostega auritella**

Asteraceae

Centaurea: 178. *Bucculatrix centaureae**

Anthemis: 176. *Bucculatrix anthemidella**

Achillea: 182. *Bucculatrix cristatella**

Artemisia: 137. *Leucospilapteryx omissella*, 174. *Bucculatrix artemisiae**, 175. *B. ratisbonensis**

Aster: 181. *Bucculatrix maritima**

The strong predominance of Rosaceae in the host record of the fauna of Central Asia (more than 35 %) is not surprising, since this applies also to the whole Palaearctic fauna (van Nieuwerkerken 1986, Puplesis 1994, Noreika & Puplesis 1992a). The tendency within Nepticulidae and Gracillariidae to feed on woody plants and the usual strict hostplant choice (i.e. predominance of monophagous or oligophagous species) was stressed before (Puplesis 1994). And, moreover, this tendency is also present in other families of leaf-miners involved in this survey (Tischeriidae and partly Bucculatricidae). However, because biological considerations on leaf-miners of Central Asia are still hampered by a lack of sufficient knowledge, the present list of hostplants has a preliminary character.

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